

## IN THE SPECIFICATION

Please replace the paragraph starting at line 9 of page 14 with the following amended paragraph:

FIG. 2 is a schematic showing the UV source 1 positioned directly above the electro-ionization device 12 with electrodes 7 and the conveyor system (all component of the system are not shown) 13 with a conveyor belt 6. The UV power unit 14 is electrically attached to the UV source. Also depicted is the high voltage alternating current (AC) electro-ionization device power unit supply 15 connected to the electro-ionization device 12.

Please replace the paragraph starting on line 1 of page 15 with the following paragraph:

FIG. 4 also shows the ducting system surrounding the periphery of the UV source 1 and the air flow dynamics. The arrows 25 depict the UV source cooling airflow direction proximate the UV source. Air is forced downwardly over the LW source as shown. Most of the air and some of the other gaseous materials, such as contaminants, are removed through upper negative pressure exhaust system 19 via upper the peripheral duct system 18. Remaining air and gaseous materials can be removed through the ventilation system 21 via lower ducting 20. Means for expelling excess materials from the ducting and exhaust are well known in the art. For example, exhaust fans of the type commonly used in hoods may be used.

Please replace the paragraph beginning at line 17 of page 22 with the following amended paragraph:

Particularly suitable substrates that can be modified in accordance with the invention include elastomeric substrates including vulcanized rubbers, thermoplastic substrates and thermoset plastics. Non-limiting examples of elastomeric substrates include natural rubber (NR), styrene-butyl-styrene rubber (SBS), styrene-butadiene rubber (SBR), ethylene vinyl acetate (EVA), polyurethane rubber (PU), polybutadiene rubber (BR), chlorobutyl rubber (CLLR), polyisoprene rubber (R), chloroprene rubber (CR), isobutylene-isoprene rubber (IIR), ethylene-propylene-diene rubber (EPDM), silicone elastomer, acrylonitrile-butadiene rubber (NBR), polyacrylic rubber (ACR), fluoro-elastomers, and polyolefin thermoplastic elastomers. Non-limiting examples of thermoplastic substrates include polyolefins such as low density polyethylene (LDPE), polypropylene (PP), high density polyethylene (HDPE), ultra high molecular weight polyethylene (UHMWPE), blends of polyolefins with other polymers or rubbers, halogenated polymers, such as ~~polyvinylidene fluoride~~ polyvinylidene fluoride (PVDF), polytetra-fluoroethylene (PTFE), fluorinated ethylene-propylene copolymer (FEP), polyvinylchlorides (PVC), polystyrenes and polystyrene copolymers, ~~polyvinyl~~ polyvinyl acetates, acrylic thermoplastics, polyethers such as polyoxy ~~methylene~~ methylene (Acetal), polybenzimidazoles, polybenzoxazoles, polybenzothiazoles, polyoxadiazoles, polyesters such as polyethylene terephthalate (PET), polyurethanes, polysiloxanes, polysulfides, polyacetals, polyethylenes, polyisobutylenes, silicones, polycarbonates, phenolic polymers, polyacrylonitriles, polytetrafluoroethylenes, polyisoprenes, polyimides, polycarbonates, polyamides such as poly (n-hexamethylene

hexamethylene adipamide) (Nylon 66 ), poly(ethylene terephthalates), polyformaldehydes, methacrylate polymers such as polymethylmethacrylates (PMMA), acrylonitrile-butadiene-styrene copolymers, aromatic polymers such as polystyrene (PS) and ketone polymers such as polyetheretherketone (PEEK). Suitable thermoset plastics include, but are not limited to, epoxies, polyurethanes, cyanoacrylates, polytriazoles, polyquinoxalines, ~~polyimido-pyrrol-ones~~ polyimidazo pyrrolidones and copolymers containing an aromatic constituent.

Please replace the paragraph beginning on line 17 of page 22 with the following amended paragraph:

Suitable organosilane monomers, oligomers or polymers that may be used for coatings on substrates that have been modified using the present invention include, but are not limited to, methyltrimethoxysilane, methyltriethoxysilane, methyltrimethoxyethoxysilane, ~~m-ethyltriacetoxysilane~~ methyltriacetoxysilane, methyltripropoxysilane, methyltributoxysilane, ~~ethyltrimethoxysilane~~ ethyltrimethoxysilane, ethyltriethoxysilane, gamma-meth-acryloxypropyltrimethoxysilane, gamma-aminopropyltri-methoxysilane, gamma-aminopropyltriethoxysilane, gammamercaptopropyltrimethoxysilane, chloromethyltrimethoxysilane, chloromethyltriethoxysilane, dimethyldiethoxysilane, ~~gamma-chloropropylmethyldi-methoxysilane~~ gamma-chloropropylmethyldimethoxysilane, gamma-chloropropyl-methyldiethoxysilane, tetramethoxysilane, tetraethoxysilane, tetra-n-propoxysilane, tetra-n-butoxysilane, ~~glycid oxymethyltriethoxysilane~~ glycid oxymethyltriethoxysilane, alpha-

glycidoxyethyltrimethoxysilane, alpha-glycidoxyethyltriethoxysilane, beta-glycidoxyethyltrimethoxysilane, beta-glycidoxyethyltriethoxysilane, ~~alpha-glycidoxy-propyltri-methoxysilane~~ alpha-glycidoxy-propyltrimethoxysilane, ~~alpha-glycidoxy-propyltriethoxysilane~~ alpha-glycidoxypropyltriethoxysilane, beta-glycidoxypropyltrimethoxysilane, beta-glycidoxypropyltriethoxysilane, gamma-glycidoxypropyltrimethoxysilane, gamma-glycidoxypropylmethydimethoxysilane ~~gamma-glycidoxypropylmethydimethoxysilane~~, ~~gamma-glycidoxy-propyldimethylethoxysilane~~ gamma-glycidoxy-propyldimethylethoxysilane, hydrolysates thereof, and mixtures of such silane monomers and their hydrolysates. Other potential organosilane monomers, oligomers or polymers include the organosilanes disclosed in U.S. Pat. No. ~~5514466~~ 5,514,466, column 5, line 5 to column 7, line 12, which disclosure is incorporated herein by reference. This patent, at column 7, lines 8-12, discloses the use of organosilicone compounds containing the epoxy group and the glycidoxy group in a coating composition.

Please replace the paragraph beginning on line 7 of page 24 with the following amended paragraph:

In the tables below, the conveyor belt speed is given in feet per minute and the processing gas (the type of gas introduced into the reactive processing zone) flow is given in liters per minute. Atm. stands for ambient atmosphere, and Vap. stands for ~~GHG13~~ CHCl<sub>3</sub> with an Atm. Carrier [()]. Test results are given in values of Kg/in (kilograms per inch). Mechanical testing was conducted on all test samples approximately 120 hours after bonding. The tests performed on all samples were 150

degree Tee Peel tension pull tests (ASTM D412-97). The pull rate was 4 inches per minute. Using this test preferably the bonded samples are able to withstand at least about 14 ppi (about 6.3 Kg/in).